

Remarks

The Office Action mailed June 17, 2004 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1-7, 9 and 11-31 are now pending in this application, of which claims 14-18 and claims 23-28 have been amended. Claim 8 has been cancelled. It is respectfully submitted that the pending claims define allowable subject matter.

Claims 14-18 have been amended for clarity and consistency with claim 12. Claims 24-28 have been amended for clarity and consistency with claim 22.

The rejection of Claims 12, 13, 16, 19-23, 26 and 29-31 under 35 U.S.C. § 102(b) as being anticipated by Miyazawa (U.S. Patent No. 5,631,492) is respectfully traversed.

Claim 12 recites an electrical component cover, comprising “an integrally formed body section having opposite peripheral edges, opposed end edges, and a planar top surface configured to form a vacuum seal with a tool for automatically assembling electrical components to other structures,” “said integrally formed body section including a flange provided along at least one of said peripheral edges, said flange preventing movement of an upper end of an electrical component relative to said body section in at least one direction parallel to said top surface” and “said integrally formed body section including a release arm extending from at least one of said opposed end edges, said release arm configured to releasably retain an electrical component.”

Miyazawa describes a cover (6) for use in automatically mounting electrical connectors (4) to a printed circuit board with the aid of a vacuum-suction nozzle (5). The cover includes a flat and smooth top plate (7) and opposite arms (9) which latch opposite side walls (8) of the connector housing (1). Pin-like projections (14) of the connector (4) contact the underside (13) of the cover (6), and hooks (11) in each of the arms (9) latch the cover (6) in its position over the pin-like projections (14). The fabrication of the Miyazawa cover is not described.

Contrary to the assertion otherwise in the Office Action, Miyazawa does not describe flanges on peripheral edges of a cover plate. Element (13) of Miyazawa, which the Office Action characterizes as the recited flange of claim 12, is no such thing. As Miyazawa states, element (13) is the underside of the top plate (7), and the only description of the underside (13) is that it “is designed to be brought into contact with the tips 14 of the pin-like terminals 3 of the electric connector 4 when the cover 6 is positioned on the connector 4.” See Miyazawa col. 3, lines 8-14. As illustrated in Figures 1-3 and 5-8, the underside (13) is flat and smooth, and lacks any structure on the peripheral edge thereof that could be fairly characterized as a flange, or any structure that would prevent movement of an upper end of an electrical component relative to said body section in at least one direction parallel to said top surface. Rather, the Miyazawa cover is restrained from movement of a lower end of an electrical component by virtue of the hooks (11) on the lower end of the arms (9) where the hooks (11) engaged recess (10) on each side of the connector (4). Restraining movement of the connector (4) at the upper end of the arms (9) of the cover (7) is nowhere suggested by Miyazawa.

Miyazawa therefore fail to describe or suggest all the recitations of claim 12, and claim 12 is accordingly submitted to be patentable over Miyazawa.

Claims 13, 16 and 19-21 depend from claim 12, and when the recitations of claims 13, 16 and 19-21 are considered in combination with the recitations of claim 12, claims 13, 16 and 19-21 are likewise submitted to be patentable over Miyazawa.

Independent claim 22 recites an electrical component cover comprising “an integrally formed body section having opposed end edges, opposed peripheral edges and a planar top surface extending between said peripheral edges, said top surface configured to form a vacuum seal with a tool for automatically assembling electrical components to other structures,” “said integrally formed body section including a release arm extending from at least one of said opposed end edges of said body section, said release arm configured to releasably retain an electrical component and configured to engage the electrical component to hold the electrical

component at a desired distance from said body section,” and “a release lever connected to said release arm, said release lever extending away from the electrical component and above said planar top surface.”

Miyazawa clearly does not describe or suggest a release lever connected to a release arm, the release lever extending away from the electrical component and above the planar top surface of the cover. The arms (9) of the Miyazawa cover extend toward, and not away from the connector (4), and do not extend above the top surface (7) of the cover (6). Moreover, given the construction of the Miyazawa cover, release levers would serve no purpose. As shown in Figure 4, the connector housing (1) includes a sloped surface which engages a complementary sloped surface of the hooks (11) of the cover arms (9). Thus, by virtue of the sloped engagement surfaces, the hooks (11) may be disengaged from the connector housing (1) simply by pulling the cover (6) vertically upward, thereby sliding the hooks (11) along the sloped surface of the connector housing (1) and removing the cover (6) from the connector (4). As such, the Miyazawa cover may be rather easily removed without the assistance of release levers, and Miyazawa suggests no desirability of including release levers in the cover.

Claim 22 is therefore submitted to be patentable over Miyazawa.

Claims 23, 26 and 29-31 depend from claim 22, and when the recitations of claims 23, 26 and 29-31 are considered in combination with the recitations of claim 22, claims 23, 26 and 29-31 are likewise submitted to be patentable over Miyazawa.

For the reasons set forth above, Applicants respectfully request that the § 102 rejection of Claims 12, 13, 16, 19-23, 26 and 29-31 be withdrawn.

The rejection of Claims 1, 7-9 and 11 under 35 U.S.C. § 103 as being unpatentable over Miyazawa in view of Dechelette (U.S. Patent No. 4,512,619) is respectfully traversed.

Miyazawa is described above. Dechelette is cited for teaching a stamped metallic body, which is true, but Dechelette otherwise bears no apparent relation to the present invention, and

the assertion that it would have been obvious to modify the device of Miyazawa by providing a stamped metallic body per the teaching of Dechelette is respectfully traversed. It is respectfully submitted that a prima facie case of obviousness has not been made.

Applicants note that the connector (4) of Miyazawa includes pin terminals (14) and corresponding solder tails (12). Miyazawa also notes that the underside of the cover (6) is pushed against the terminals (14) in use. See Miyazawa col. 3, lines 19-24. Thus, if the cover (6) of Miyazawa were to be fabricated from metal, the result would be metal-to-metal engagement of the terminal pins (14) and the cover (6). Such metal-to-metal engagement is undesirable and would likely be avoided if possible.

Also, the construction of the Miyazawa cover (6) is not conducive to formation by metal stamping techniques. The relative proportions of the Miyazawa cover and arms in length, width, and thickness would not be easily obtainable from a stamped metal construction.

As explained by the Federal Circuit, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. The present rejection appears to be an impermissible hindsight reconstruction of the invention combining isolated teachings of Miyazawa and Dechelette. Miyazawa nowhere describes or suggest a metal construction of the cover (7) and Dechelette does not describe, suggest or motivate the use of a metal stamped construction in a cover such as that described by Miyazawa.

Claim 1 is therefore submitted to be patentable over Miyazawa in view of Dechelette.

Claims 7, 9 and 11 depend from claim 1, and when the recitations of claims 7, 9, and 11 are considered in combination with the recitations of claim 1, claims 7, 9 and 11 are likewise submitted to be patentable over Miyazawa in view of Dechelette.

Claim 8 is cancelled.

For the reasons set forth above, Applicants respectfully request that the § 103 rejection of Claims 1, 7-9 and 11 be withdrawn.

The rejection of Claims 2 and 4-6 under 35 U.S.C. § 103 as being unpatentable over Miyazawa in view of Dechelette and further in view of German (U.S. Patent No. 5,168,995) is respectfully traversed.

Claims 2 and 4-6 depend from claim 1, which is submitted to be patentable for the reasons set forth above. When the recitations of claims 2 and 4-6 are considered in combination with the recitations of claim 1, claims 2 and 4-6 are likewise submitted to be patentable over Miyazawa in view of Dechelette and further in view of German.

Furthermore, as Applicants have previously noted, German differs from the present invention in several material aspects, and it is submitted that the combination of teachings of Miyazawa, Dechelette and German are not consistent with one another or the present invention. The present rejection appears to be an impermissible hindsight reconstruction of the invention combining isolated teachings of prior art rather than stemming from a suggestion or motivation from the cited art to make modifications to the prior art devices that would result in the present invention.

For the reasons set forth above, Applicants respectfully request that the § 103 rejection of Claims 2 and 4-6 be withdrawn.

The rejection of Claim 3 under 35 U.S.C. § 103 as being unpatentable over Miyazawa in view of Dechelette and further in view of Owen (U.S. Patent No. 4,795,354) is respectfully traversed.

Claim 3 depends from claim 1, which is submitted to be patentable over Miyazawa in view of Dechelette for the reasons set forth above. It is respectfully submitted that Owen adds nothing to the teaching of Miyazawa and Dechelette with respect to the instant invention. Again, the present rejection appears to be an impermissible hindsight reconstruction of the invention

combining isolated teachings of prior art rather than stemming from a suggestion or motivation from the cited art to make modifications to the prior art devices that would result in the present invention.

Owen describes a dust cover (10) for a ZIF connector. The cover (10) includes an elongated, printed circuit board receiving slot (34) in a top surface (14) thereof. Owen describes the cover (10) as being fabricated from plastic having sufficient flexibility to provide a snap fit to the connector. See Owen col. 2, lines 51-58. Thus, Owen teaches the use of a plastic cover and not a metal one, and the board receiving slot (34) in the top surface (14) of the Owen cover (10) would apparently frustrate the formation of a vacuum seal with a tool per claim 1. It is therefore submitted that the combination of Miyazawa, Dechelette and Owen fail to teach or suggest each recitation of claim 1.

Claim 1 is therefore submitted to be patentable over Miyazawa in view of Dechelette and further in view of Owen. When the recitations of claim 3 are considered in combination with the recitations of claim 1, claim 3 is likewise submitted to be patentable over Miyazawa in view of Dechelette and further in view of Owen.

For the reasons set forth above, Applicants respectfully request that the § 103 rejection of Claim 3 be withdrawn.

The rejection of Claims 14 and 24 under 35 U.S.C. § 103 as being unpatentable over Miyazawa in view of Owen is respectfully traversed.

Claim 14 depends from claim 12, which is submitted to be patentable over Miyazawa for the reasons set forth above. Owen, like Miyazawa, describe a cover having a smooth underside which lacks any structure on a peripheral edge thereof that could be fairly characterized as a flange, or any structure that would prevent movement of an upper end of an electrical component relative to said body section in at least one direction parallel to said top surface. Thus, claim 12

is submitted to be patentable over Miyazawa in view of Owen because neither Miyazawa nor Owen teach the recited flange of claim 12.

Claim 12 is therefore submitted to be patentable over Miyazawa in view of Owen, and when the recitations of claim 14 are considered in combination with the recitations of claim 12, claim 14 is likewise submitted to be patentable over Miyazawa in view of Owen.

Claim 24 depends from claim 22, which is submitted to be patentable over Miyazawa for the reasons set forth above. Owen, like Miyazawa, describe a cover having arms extending only downward from the top surface of the cover, and Owen, like Miyazawa suggest no desirability of release levers per claim 22. As a dust cover, the cover of Owen is not intended to be removable once it is installed.

Claim 22 is therefore submitted to be patentable over Miyazawa in view of Owen because neither of the references teach or suggest the recited release levers. When claim 24 is considered in combination with the recitations of claim 22, claim 24 is likewise submitted to be patentable over Miyazawa in view of Owen.

For the reasons set forth above, Applicants respectfully request that the § 103 rejection of Claims 14 and 24 be withdrawn.

The rejection of Claims 15, 17, 25 and 27 under 35 U.S.C. § 103 as being unpatentable over Miyazawa in view of German is respectfully traversed.

It is respectfully submitted that a prima facie case of obviousness has not been made. As Applicants have previously submitted, German differs materially from the present invention in several ways, and the teaching of German is not believed to be consistent with the teaching of Miyazawa or the present invention. There is no motivation supplied by the references to combine the teachings of the references in the manner suggested in the Office Action.

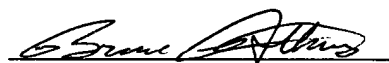
Applicants further submit that independent claims 12 and 22, from which claims 15 and 17 and 25 and 27 respectively depend, are patentable over the cited art for the reasons set forth above. When the recitations of claims 15, 17, 25 and 27 are considered in combination with the respective recitations of claim 12 and 22, claims 15, 17, 25 and 27 are likewise submitted to be patentable over Miyazawa in view of German.

For the reasons set forth above, Applicants respectfully request that the § 103 rejection of Claims 15, 17, 25 and 27 be withdrawn.

The objection to claims 18 and 28 as being dependent upon rejected base claims is respectfully traversed. For the reasons set forth above, the base claims (claims 12 and 22) of claims 18 and 28 are submitted to be patentable over the cited art. When the recitations of claims 18 and 28 are considered in combination with their respective base claims, claims 18 and 28 are likewise submitted to be patentable over the cited art. Applicants accordingly request reconsideration of the objection to claims 18 and 28.

In view of the foregoing remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully Submitted,



Bruce T. Atkins
Registration No. 43,476
ARMSTRONG TEASDALE LLP
One Metropolitan Square, Suite 2600
St. Louis, Missouri 63102-2740
(314) 621-5070